

WHAT IS CLAIMED IS:

1. A lithographic printing plate precursor comprising a hydrophilic support having thereon a heat-sensitive layer containing either a microcapsule containing a compound having a functional group capable of reacting by heat or a fine particulate polymer, wherein

(1) when said heat-sensitive layer contains a fine particulate polymer, said fine particulate polymer may be a fine particulate polymer capable of combining or incapable of combining by heat used for the image formation and said fine particulate polymer has a functional group capable of reacting with a functional group present in another fine particulate polymer or with a functional group present in another component in the heat-sensitive layer; or

(2) when said heat-sensitive layer contains a microcapsule containing a compound having a functional group capable of reacting by heat, said microcapsule may be a microcapsule having an outer wall capable of rupturing or incapable of rupturing by heat used for the image formation and a light-to-heat converting material is contained in the heat-sensitive layer or in a layer adjacent thereto.

2. The lithographic printing plate precursor as claimed in claim 1, comprising a hydrophilic support having thereon a heat-sensitive layer containing a fine particulate polymer capable of combining by heat, wherein said fine particulate polymer has a functional group capable of reacting with a functional group present in another fine particulate polymer or with a functional group present in another component in the heat-sensitive layer.

3. The lithographic printing plate precursor as claimed in claim 2, wherein said hydrophilic support is an aluminum substrate subjected to a surface roughening treatment and then to an anodization treatment.

4. The lithographic printing plate precursor as claimed in claim 3, wherein said aluminum substrate is further subjected to a silicate treatment.

5. The lithographic printing plate precursor as claimed in claim 1, comprising a hydrophilic support having thereon a heat-sensitive layer containing a fine particulate polymer incapable of combining by heat used for the image formation, wherein said fine particulate polymer has a functional group capable of reacting with a functional group present in another fine particulate polymer or with a functional group present in another component in the heat-sensitive layer.

6. The lithographic printing plate precursor as claimed in claim 5, wherein said hydrophilic support is an aluminum substrate subjected to a surface roughening treatment and then to an anodization treatment.

7. The lithographic printing plate precursor as claimed in claim 6, wherein said aluminum substrate is further subjected to a silicate treatment.

8. The lithographic printing plate precursor as claimed in claim 1, comprising a hydrophilic support having thereon a heat-sensitive layer comprising a microcapsule having an outer wall incapable of rupturing by heat used for the image formation and containing a compound having a functional group capable of reacting by heat, wherein a light-to-heat converting material is contained in the heat-sensitive layer or in a layer adjacent thereto.

9. The lithographic printing plate precursor as claimed in claim 8, wherein said compound diffused from said microcapsule is present either on the surface of said microcapsule or in the vicinity of the surface.

10. The lithographic printing plate precursor as claimed in claim 8, which is obtained by dispersing microcapsules each containing a compound having a functional group capable of reacting by heat in a solvent which swells the outer wall of said microcapsule, coating said dispersion solution on a hydrophilic support and

drying the solution.

11. The lithographic printing plate precursor as claimed in claim 8, wherein said hydrophilic support is an aluminum substrate subjected to a surface roughening treatment and then to an anodization treatment.

12. The lithographic printing plate precursor as claimed in claim 11, wherein said aluminum substrate is further subjected to a silicate treatment.

13. The lithographic printing plate precursor as claimed in claim 1, comprising a hydrophilic support having thereon a heat-sensitive layer comprising a microcapsule having an outer wall capable of rupturing by heat used for the image information and containing a compound having a functional group capable of reacting by the heat, wherein a light-to-heat converting material is contained in the heat-sensitive layer or in a layer adjacent thereto.

14. The lithographic printing plate precursor as claimed in claim 13, wherein said hydrophilic support is an aluminum substrate subjected to a surface roughening treatment and then to an anodization treatment.

15. The lithographic printing plate precursor as claimed in claim 14, wherein said aluminum substrate is further subjected to a silicate treatment.